Los Altos Robotics
FIRST LEGO® League
2006 Season and Schedule



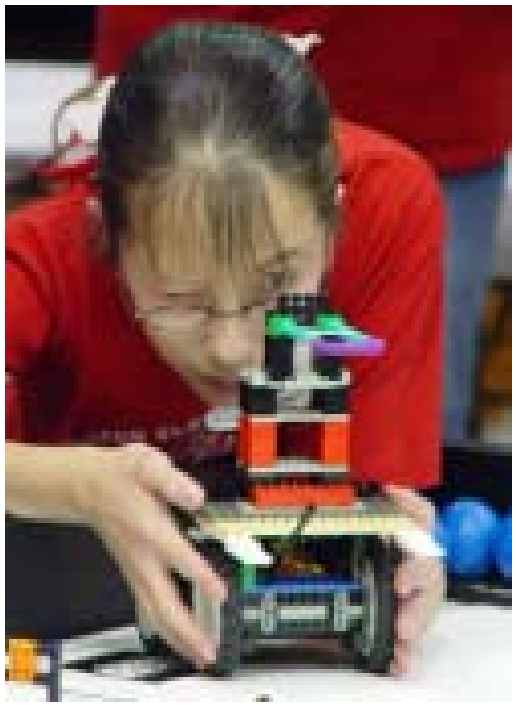
FIRST LEGO® LEAGUE

Presented by
Los Altos Robotics

- Introduction
- Video of Last Year's Tournament (5 minutes)
- Presentation (20 minutes)
- Question & Answer (10 minutes)
- End Meeting

Post-meeting: Q&A for potential coaches, managers, and team organizers

FIRST Vision



"… to create a world where science and technology are celebrated…

…where young people dream of becoming science and technology heroes…"

Dean Kamen, **Founder and Visionary**
FIRST **Foundation**

What is *FIRST Foundation*?

For Inspiration and Recognition of Science and Technology

- Founded in 1989 by inventor Dean Kamen
- ***FIRST* Robotics Competition** for high-school-aged young people
- ***FIRST* LEGO League** for 9-14 year olds started in 1998
- 501 (c) 3 not-for-profit organization
- **New programs:** VEX, smaller scale robots for high school competitions, and Jr. FLL for 6-8 year old aspiring technologist

What is FIRST LEGO League

TEAMS OF 4-8 STUDENTS, AGES 9-14

- Build autonomous robots to solve challenges on a table-top sized field in a time trial competition
- Research and demonstrate their ideas to a panel of judges

WHAT TYPE OF CHALLENGE?

- An exciting and current technology or science
- A set of LEGO obstacles on an 4' x 8' field

HOW DOES IT WORK?

- 8 weeks to design, construct, program, and test solutions
- Use LEGO MINDSTORMS™ Robotics Invention or NXT Systems
- Compete with peers in high-energy tournaments

Benefits of FIRST LEGO League

- Creates an environment where it is "cool" to get excited about science and technology
- Children have fun watching their own ideas in action, while building self-confidence, knowledge and life skills
- Creates a microcosm of working in a real-world design or engineering team

Challenge 2006

NANO QUEST

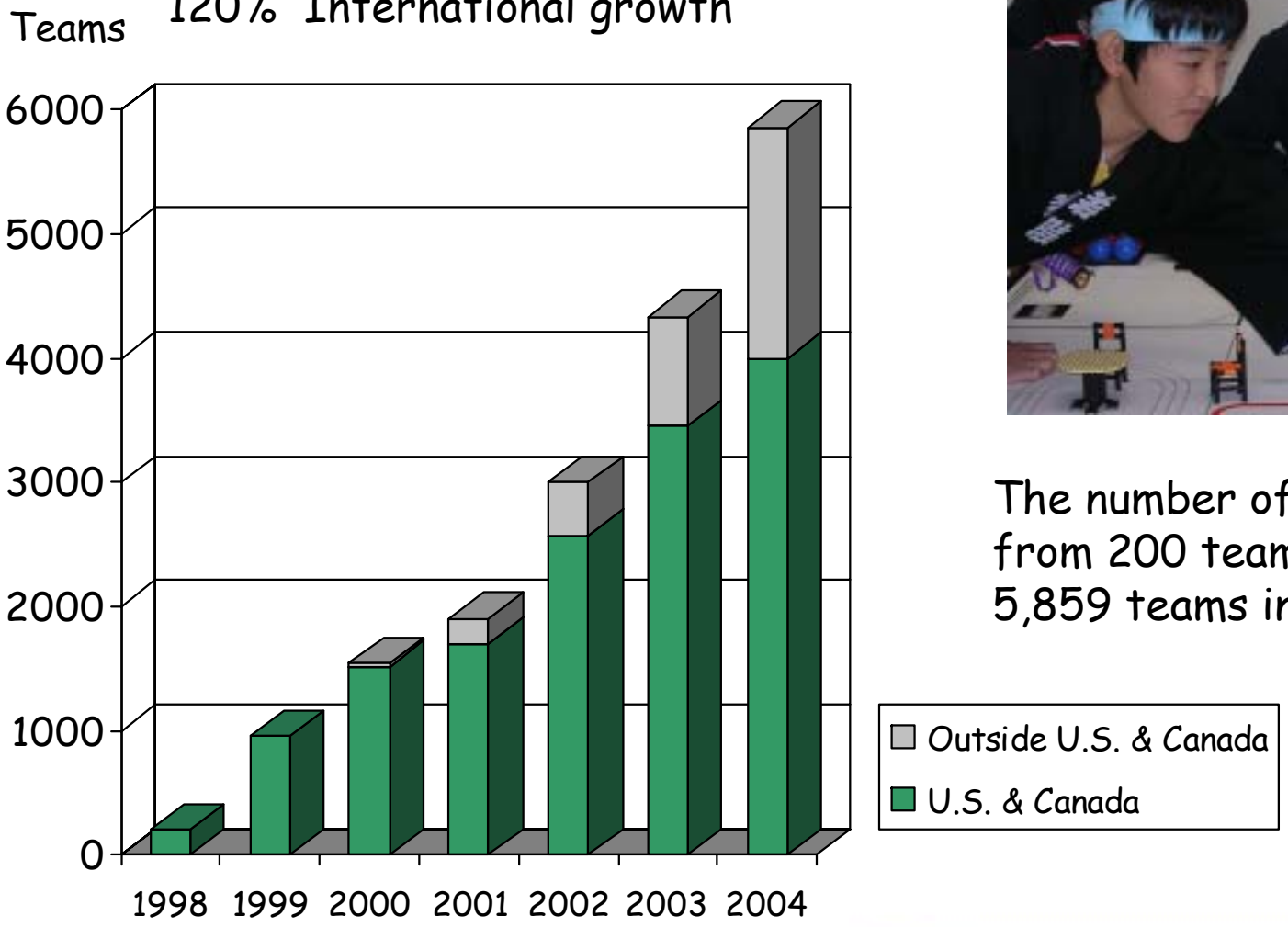
FIRST LEGO League delves into the world at the molecular level

- **EXPLORE** a new frontier that will impact every facet of society, from medicine to computers to the environment
- **KICK-OFF IS SEPTEMBER 15** with a world-wide unveiling over the internet

FLL History:

50% US/CAN growth since 2001

120% International growth

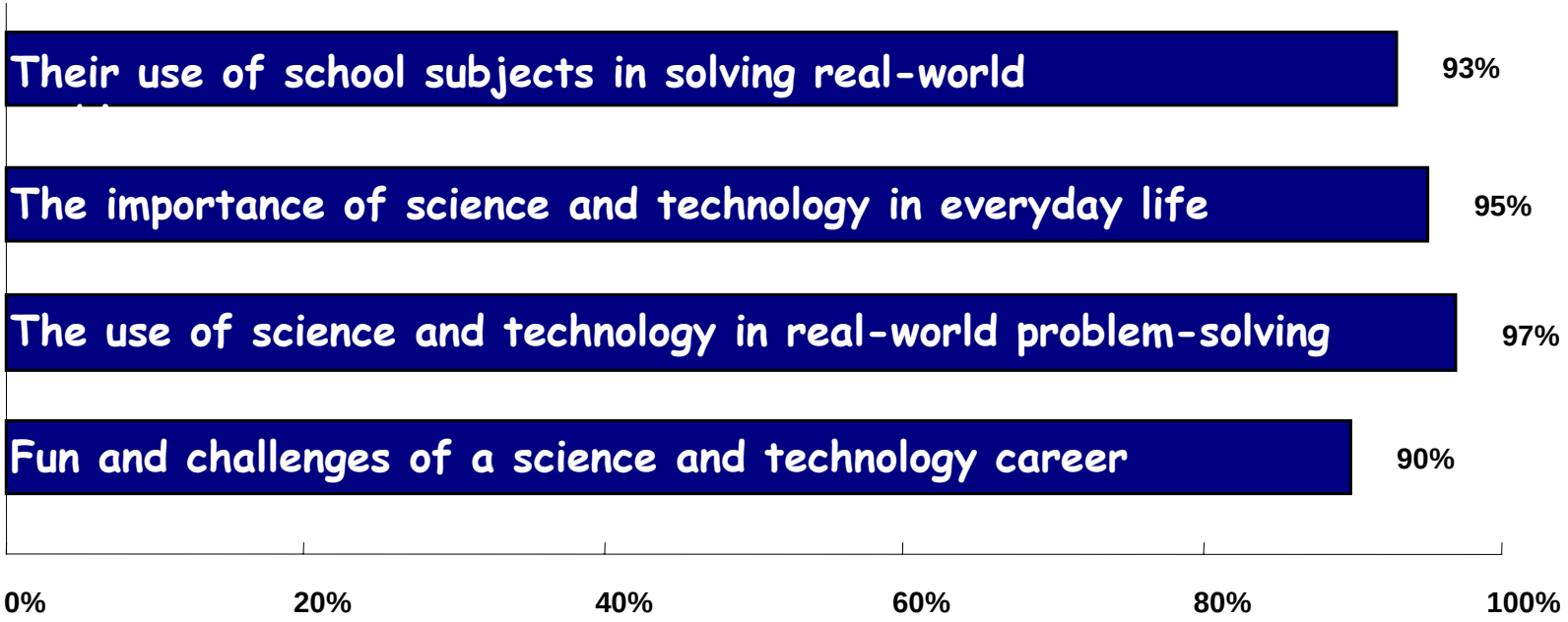


The number of FLL teams has grown from 200 teams in the U.S. in 1998 to 5,859 teams in 20 countries in 2004

FLL Impact

In the 2004 evaluation of FLL, Brandeis University also found:

Increased knowledge of:



Source: FLL Program Study by Center for Youth and Communities, Brandeis University, May 2004

FIRST Robotics Competition for High School

- Combines the excitement of sport with science and technology
- Basketball-court sized field with autonomous and radio-controlled robots
- High-school-aged young people discover the value of education in science, technology and engineering

What is Los Altos Robotics?

Los Altos Robotics is dedicated to providing the opportunity for our children to challenge themselves and experience the joy of building and programming robots

- Promote **First Lego League** in Los Altos area. There were 23 teams last year with over 120 players.
- Organize the **Los Altos Local Competition**, an FLL qualifying event since 2001 and one of only 7 such events last year in California.
- Promote and organize **Botball teams**, a robotics activity directed at grades 7-12
- Support **FIRST Robotics** activities in Los Altos area high schools

Los Altos Robotics FIRST Lego League 2006 Calendar

- Aug 10 — **Los Altos Robotics Tournament Registration begins**
- Aug 28 — * **Robitics kit leasing begins** (Kits@LosAltosRobotics.com)
- Sep 5 — * **Parent orientation**
- Sep 8 — **Teams should be organized** (kits and challenge ordered by now)
- Sep 10 — * **Coaches training** (coaches, assistant coaches, team managers)
- Sep 15 — **FLL 2006** challenge unveiled on web
- Sep – Nov — **Challenge season** (8 week research, build, program, and test)
- Oct 15 — **Los Altos Scrimmage** (Covington and Oak, Sunday, noon – 5 pm)
- Nov 18 — **Los Altos Local Competition** (Covington and Oak, Sat, noon – 6 pm)
- Jan — **Northern California State Tournament** (San Jose)

* - Introduced in 2005

How Are Teams Organized?

- Parents Are The Only Ones Who Organize Teams.
- Teams may be formed from: friends, schools, churches, youth organizations
- Until Sep 6th, LA Robotics will notify parents of other players at same school and same grade level
- After Sep 6th, LA Robotics will notify parents of remaining unassigned players
- LA Robotics DOES NOT assign players to teams and DOES NOT guarantee a player will find a team even if the player is wait-listed

WHAT PARENTS CAN DO TO ORGANIZE A TEAM

- Volunteer to be a coach or team manager
- Check with your child's friends to gauge interest level
- Teams generally work best with children at the same grade level
- Keep a copy of the Los Altos Robotics flyer with you
- **LA ROBOTICS WILL HELP YOU ORGANIZE AN ALL-GIRLS TEAM**

What Are The Team Requirements?

- Up to 10 children (4-6 recommended), 4th grade to 14 years old
- At least one adult coach (we recommend a team manager too)
- For young teams (4th, 5th grade), at least one assistant coach

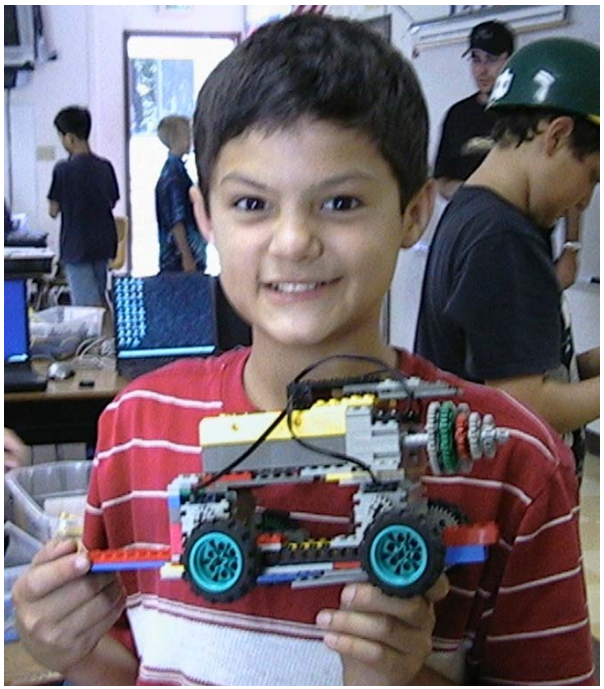
ORGANIZING STEPS

- Get team members, coaches, and manager
- Register team with National FLL ASAP (National FLL will send coaches manual, challenge set, field insert, and optionally, one FLL Robot kit)
- It is best to register and order kits by August 1 to get supplies in time
- Acquire additional robot kits (2 kits per team) and have kids do training labs before the challenge is announced
- Order 4' by 8' field from Los Altos Robotics
- **Attend coaches training!** (all coaches, asst coaches, managers – parents too)
- Send in Los Altos Robotics tournament registration, fees and t-shirt order

How Much Does It Cost?

Item	Team Cost	Player Cost (Team of 6)
FLL Team Registration	$150	$25
Field Challenge Set	$50	$8.33
Robotics Kit (buy / lease) (2 kits per team)	$600 / $300	$100 / $50
LAR FLL T-shirt	$96	$16 (per shirt)
LAR Tournament Fee	$50	$8.33
LAR 4′ x 8′ board	$40	$6.67
Misc expenses (batteries)	$30	$5
Total	$1016 / $716	$169.33 / $119.33

How Can I Help?



OPPORTUNITIES

- **Coach a team**
- Manager or assistant coach
- Tournament role – **required for each team**

"This is a great organization and wonderful for learning about Robotics. We've been involved with the program for two years and I would certainly encourage this as a school or extracurricular activity. "

-- Dr. Sharon Moerner, Blach Intermediate School

Frequently Asked Questions

- When do you assign my child to a team? We DO NOT assign players to a team.
  Teams are formed by parents. We track status and communicate contact info.
- What are typical meeting times?
  The coach sets meeting times with input from the team. Often there is a shorter meeting on a weekday and a longer meeting on the weekend.
- What is the time commitment for the children and parents?
  My child attends soccer, music lessons, and Scouts, so I want to make sure there is not a conflict before I sign them up.
  Players: 4-6 hours per week (about the level of a recreational soccer team).
  Coaches: Player meetings plus prep time.
- I don't know anything about robotics or programming. How can I help?
  Team manager, assistant coach, or tournament volunteer.
- My 4th grader is 9 years old and the age range says 9-14, can he participate?
  Some 4th graders are excited initially, but end out mostly playing with legos.
  - Do they like math, chess, or puzzles; or want to build or program games?
  - Can they stay reasonably focused in a team setting

Frequently Asked Questions

- What is the NXT kit? LEGO's new generation of robot kits was announced in January of 2006 and is called NXT. When you register your team, you have the option to order a new NXT kit or an older generation RCX kit. NXT kits are scheduled to start shipping in August.
- How do NXT kits compare to RCX kits? NXT has more capability and newer software than the RCX kits. NXT electrical parts are NOT interchangeable with RCX, however, the building pieces are the same type of LEGO and TECHNICS pieces. NXT is the technology going forward, so RCX will be quickly outdated.
- Is there a competitive advantage with NXT vs RCX? For FLL, much of the challenge lies in mechanical building and creating clever solutions with technology that is somewhat imprecise. NXT is not generally any more precise; however, initial users have reported it is somewhat easier to create a working solution in NXT than RCX. There have not been any reports of serious problems or bugs.
- What kit should my team use? If you plan to order a new kit, it is best to order the NXT rather than an older generation RCX kit. If you plan to lease a kit from Los Altos Robotics, we are leasing only the RCX kits this year.

Who To Contact: Los Altos Robotics Board

South Tournament Coordinator:	Michael Schuh
North Tournament Coordinator:	Tim Burks
Registrar:	Martin VanRyswyk
Kit Leasing:	Tom Sartor
Coaches Training:	Gordon Elder, Sudip Nag, Austin & Travis Schuh
Playing Fields:	Gordon Elder, Mike Murray
Treasurer:	Gita Bhargava
Infrastructure:	Eitan Fenson
Webmaster:	**OPEN**
Girl's Participation:	Gita Bhargava
T-shirts:	Kathi Fox, Wyn Schuh
PR/Advertising:	Ogen Perry
Board Coordinator:	Edmond Macaluso

Get Involved: Schools

OPPORTUNITIES

- Spread the word about FLL
  - School calendar
  - Back-to-school packet!
  - School newsletter and web site
  - Recognize participants
- Encourage parents to form teams
- Provide space for teams to work
- Be a tournament site
- Host an on-site demonstration (20 minute presentation to kids in spring)
  - Live demo
  - Video clips of local and state tournament
  - Video of cool bots from prior seasons

Get Involved: Sponsors and Donations

LOS ALTOS ROBOTICS

- Support The Young Mentor Program
- Kit Donation Program (DONATE YOUR OLD KITS!)
- Tournament Sponsorship Program
- Travel Fund For FLL and Botball

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